

# Effective strategies for successful engineering project delivery during national crises

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## **Certificate of original authorship**

I certify that the work in this thesis has not previously been submitted for a degree nor has it been submitted as part of requirements for a degree except as fully acknowledged within the text.

I also certify that the thesis has been written by me. Any help that I have received in my research work and the preparation of the thesis itself has been acknowledged. In addition, I certify that all information sources and literature used are indicated in the thesis.

Eskander Howsawi

Signature of Student:

Date:

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## **Abstract**

Modern project management is a highly regarded approach for delivering successful projects. However, despite applying project management principles, the rate of success in projects is still below expectations. This major fact motivates the research on project success in many sub-areas of interest, such as the financial side of project success or the human resource aspect. The research in each area of interest reveals distinct results that fill a distinct knowledge gap. This thesis therefore sets out to explore project success from the perspective of the project context and in particular, in respect of national crises as a context for project management.

National crises, such as wars, natural disasters and economic crises are increasing in number, frequency and severity worldwide. These crises are unique contexts and they induce the emergence of new dynamics and abnormal challenges that affect projects. Seeking project success in such contexts is different from seeking it in peaceful situations. However, existing literature in the project success field does not clearly show the distinction between the two different contexts or how to achieve success in the context of national crises.

To tackle the topic of project success during national crises, this thesis applies the qualitative research method on multiple sets of data. The main approach of this thesis is one of multiple case studies, and several interviews, archival documents, video data and expert discussions have provided rich sources of data. Qualitative content analysis was the main analysis method used to extract the results of this research.

As a result of the ambiguity that exists in the definition of project success, this thesis provides a framework to clarify and define project success itself. The concept of managing projects during national crises is developed, and the thesis then provides its core: the success strategies employed during national crises and the model that links them to common success factors. The thesis concludes by highlighting the contributions and implication this research has made, such as the new model and framework that can guide practitioners to deliver projects successfully during national crises, the enhancement of the theory through the provision of new concepts, and suggestions for further research.

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### **3 Glossary**

AHD	Aswan High Dam
AIPM	The Australian Institute of Project Management
APM	The Association for Project Management
BSI	The British Standards Institution
CPM	Critical Path Method
CSFs	Critical Success Factors
FDA	Food and Drugs administration
GERT	Graphical Evaluation and Review Technique
IPMA	International Project Management Association
IT	Information Technology
IWM	The imperial war museums
OGC	The Office of Government Commerce
PC	Personal computer
PERT	Program Evaluation and Review Technique
PMAJ	Project Management Association of Japan
PMBok	Project Management Body of Knowledge
PMI	Project Management Institute
PMP	Project Management Professional
PRINCE2	PRoject IN Controlled Environment version 2
RAF	The Royal Air Force
TGA	Therapeutic Goods Administration
UAE	United Arab Emirates
UK	The United Kingdom
US	The United State of America
VD	Video data
WBS	Work Breakdown Structure
WW1	World War one
WW2	World War two

#### **4 List of publications directly associated with this research**

1. Howsawi, E., Eager, D. & Bagia, R. *Understanding project success: The four-level project success framework. In: IEEE International Conference on Industrial Engineering and Engineering Management (IEEM), 2011, 6-9 Dec. 2011. 620-624.*
2. Howsawi, E., Eager, D., Bagia, R. & Niebecker, K. 2013. *Using video data in project management research.* AIPM National Conference 2013. Perth, Australia.
3. Howsawi, E., Eager, D., Bagia, R., & Niebecker, K. (2014). The four-level project success framework: application and assessment. *Organisational Project Management, 1*(1), 1-14.
4. Howsawi, E., Eager, D., Bagia, R., & Niebecker, K. (2014). Project Management During National Crisis: Concept Development. *International Review of Management and Business Research, 3*(1). 412-422
5. Howsawi, E., Eager, D., Bagia, R., & Niebecker, K. (2014). Success Strategies For Project Management During National Crises: Insights From The British Aviation Industry During World War Two. *International Review of Management and Business Research, 3*(1), 533-556.
6. Howsawi, E., Eager, D., Bagia, R., & Niebecker, K. (2014). The use of video data in project management research *Science Journal of Business and Management, 2*(1), 10-15. doi: 10.11648/j.sjbm.20140201.12
7. Howsawi, E., Eager, D., Bagia, R., & Niebecker, K. (2014). Delivering a Mega Construction Project Successfully During a National Crisis: Lessons Learned From The Aswan High Dam Construction Project. *International Review of Management and Business Research, 3*(2), 625-647.

8. Howsawi, E., Eager, D., Bagia, R., & Niebecker, K. (2014). A success model for project management during national crises. *International Review of Management and Business Research*, 3(2) 960-981.

Appendix B at the end of this thesis contains copies of these papers in their published format.